



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,960	05/02/2001	Susan E. Swift	A-69332-1/RMS/JJD	6153

959 7590 09/24/2003

LAHIVE & COCKFIELD
28 STATE STREET
BOSTON, MA 02109

EXAMINER

BYRD, DEVON R

ART UNIT	PAPER NUMBER
----------	--------------

1639

DATE MAILED: 09/24/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,960

Applicant(s)

SWIFT ET AL.

Examiner

Devon R Byrd

Art Unit

1639

FILE
COPY

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 24-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

ART UNIT: 1639

DETAILED ACTION

STATUS OF THE CLAIMS

CLAIMS 1-26 ARE PENDING IN THIS APPLICATION AND ARE SUBJECT TO RESTRICTION/ELECTION OF SPECIES. OF THE ABOVE CLAIMS, 24-26 ARE WITHDRAWN FROM CONSIDERATION AS THEY ARE DIRECTED TO NON-ELECTED GROUPS.

ELECTION/RESTRICTIONS

APPLICANT'S ELECTION WITH TRAVERSE OF GROUP III IN PAPER NO. 14 IS ACKNOWLEDGED. THE RESTRICTION OF CLAIMS 1-16 AND 18-23 INTO INVENTIVE GROUPS I-VII IS HEREBY WITHDRAWN IN RESPONSE TO APPLICANT'S AMENDMENT. IT IS NOTED THAT APPLICANT DID NOT SPECIFICALLY TRAVERSE THE RESTRICTION OF CLAIM 17 INTO GROUP VIII. NEVERTHELESS, THIS RESTRICTION REQUIREMENT IS HEREBY WITHDRAWN.

APPLICANT'S ALTERNATIVE ELECTION OF CLAIMS 1-23 AS "NEWLY FORMED GROUP I" IN PAPER NO. 14 IS HEREBY ACKNOWLEDGED. CLAIM 1 READS ON A NUMBER OF POTENTIALLY PATENTABLY DISTINCT SPECIES (E.G., IG ALPHA-1, IG ALPHA-2, IG EPSILON, IG GAMMA-1, IG GAMMA-2, IG GAMMA-3, IG GAMMA-4). THEREFORE, FOR PURPOSES OF INITIAL SEARCH, APPLICANT'S PROVISIONAL ELECTION OF GROUP III (IG EPSILON) AS AN ELECTION OF SPECIES IS ACKNOWLEDGED.

APPLICANT'S ELECTION WITH TRAVERSE OF "SMALL MOLECULES", WITH CLAIMS 1-18 READABLE THEREON, IN PAPER NO. 14 IS ACKNOWLEDGED. THE TRAVERSAL IS ON THE GROUND(S) THAT "...A SEARCH FOR THE CLAIMED METHOD FOR SCREENING FOR A CANDIDATE AGENT CAPABLE OF MODULATING GERMLINE TRANSCRIPTION COMPRISING ADDING A LIBRARY OF CANDIDATE AGENTS TO A PLURALITY OF CELLS WILL NECESSARILY INCLUDE ANY LIBRARY OF CANDIDATE AGENTS, AND THEREFORE BE CO-EXTENSIVE". THIS IS NOT FOUND PERSUASIVE

ART UNIT: 1639

BECAUSE "SMALL MOLECULES", PEPTIDES, AND RETROVIRUSES DO NOT SHARE A COMMON CORE STRUCTURE, THUS REQUIRING SEPARATE AND DIVERGENT SEARCHES.

THE REQUIREMENT IS STILL DEEMED PROPER AND IS THEREFORE MADE FINAL.

CLAIMS 24-26 ARE WITHDRAWN FROM FURTHER CONSIDERATION PURSUANT TO 37 CFR 1.142(B), AS BEING DRAWN TO NONELECTED GROUPS, THERE BEING NO ALLOWABLE GENERIC OR LINKING CLAIM. APPLICANT TIMELY TRAVERSED THE RESTRICTION (ELECTION) REQUIREMENT IN PAPER NO. 14.

SPECIFICATION

THE DISCLOSURE IS OBJECTED TO BECAUSE OF THE FOLLOWING INFORMALITIES: ON P 21, LINES 7-9 OF THE SPECIFICATION, FIGURE 8 IS REFERRED TO WITH REFERENCE TO IGE AND IGG PROBES. FIGURE 8 IS A DEPICTION OF A VECTOR. APPROPRIATE CORRECTION IS REQUIRED.

CLAIM REJECTIONS - 35 USC § 112, 2ND PARAGRAPH

THE FOLLOWING IS A QUOTATION OF THE SECOND PARAGRAPH OF 35 U.S.C. 112:

THE SPECIFICATION SHALL CONCLUDE WITH ONE OR MORE CLAIMS PARTICULARLY POINTING OUT AND DISTINCTLY CLAIMING THE SUBJECT MATTER WHICH THE APPLICANT REGARDS AS HIS INVENTION.

CLAIMS 1-23 ARE REJECTED UNDER 35 U.S.C. 112, SECOND PARAGRAPH, AS BEING INDEFINITE FOR FAILING TO PARTICULARLY POINT OUT AND DISTINCTLY CLAIM THE SUBJECT MATTER WHICH APPLICANT REGARDS AS THE INVENTION.

THE TERM "...SUBSTANTIALLY COMPLEMENTARY..." IN CLAIM 1 IS A RELATIVE TERM THAT RENDERS THE CLAIM INDEFINITE. THE TERM IS NOT DEFINED BY THE CLAIM, AND IS NOT ADEQUATELY DESCRIBED IN THE SPECIFICATION (P 17, LNS 23-24) IN SUCH A MANNER THAT THE SKILLED ARTISAN WOULD BE ABLE TO ASCERTAIN THE METES AND BOUNDS OF THE CLAIMED INVENTION. THE SPECIFICATION DEFINES "SUBSTANTIALLY COMPLEMENTARY" AS "... SUFFICIENTLY

ART UNIT: 1639

COMPLEMENTARY ... TO HYBRIDIZE UNDER NORMAL REACTION CONDITIONS" (P 17, LNS 23-24). THERE ARE NO REPRESENTATIVE SEQUENCES THAT WOULD ENCOMPASS A CORE STRUCTURE. THE MERE RECITATION OF VARIOUS HYBRIDIZATION PARAMETERS DOES NOT RESTRICT THE DEFINITION OF THE TERM "SUBSTANTIALLY COMPLEMENTARY". THUS, THE PATENT SPECIFICATION DOES NOT DESCRIBE THE METES AND BOUNDS OF THE INVENTION IN SUFFICIENT DETAIL IN A MANNER SUFFICIENT TO APPRISE THE SKILLED ARTISAN AS TO WHAT WOULD INFRINGE OR NOT INFRINGE.

CLAIM REJECTIONS - 35 USC § 112, 1ST PARAGRAPH

(WRITTEN DESCRIPTION)

THE FOLLOWING IS A QUOTATION OF THE FIRST PARAGRAPH OF 35 U.S.C. 112:

THE SPECIFICATION SHALL CONTAIN A WRITTEN DESCRIPTION OF THE INVENTION, AND OF THE MANNER AND PROCESS OF MAKING AND USING IT, IN SUCH FULL, CLEAR, CONCISE, AND EXACT TERMS AS TO ENABLE ANY PERSON SKILLED IN THE ART TO WHICH IT PERTAINS, OR WITH WHICH IT IS MOST NEARLY CONNECTED, TO MAKE AND USE THE SAME AND SHALL SET FORTH THE BEST MODE CONTEMPLATED BY THE INVENTOR OF CARRYING OUT HIS INVENTION.

CLAIMS 1-23 ARE REJECTED UNDER 35 U.S.C. 112, SECOND PARAGRAPH, AS BEING INDEFINITE FOR FAILING TO PARTICULARLY POINT OUT AND DISTINCTLY CLAIM THE SUBJECT MATTER WHICH APPLICANT REGARDS AS THE INVENTION.

THE TERM "...SUBSTANTIALLY COMPLEMENTARY..." IN CLAIM 1 IS A RELATIVE TERM THAT RENDERS THE CLAIM INDEFINITE. THE TERM IS NOT DEFINED BY THE CLAIM, AND IS NOT ADEQUATELY DESCRIBED IN THE SPECIFICATION (P 17, LNS 23-24) IN SUCH A MANNER THAT THE SKILLED ARTISAN WOULD BE ABLE TO ASCERTAIN THE METES AND BOUNDS OF THE CLAIMED INVENTION. THE SPECIFICATION DEFINES "SUBSTANTIALLY COMPLEMENTARY" AS "... SUFFICIENTLY COMPLEMENTARY ... TO HYBRIDIZE UNDER NORMAL REACTION CONDITIONS" (P 17, LNS 23-24). THERE IS NO GUIDANCE AS TO WHAT CONSTITUTES "NORMAL REACTION CONDITIONS", THUS THE

ART UNIT: 1639

"DEFINITION" IS OPEN-ENDED. IN FACT, THE SPECIFICATION GOES ON TO SAY THAT "[S]TRINGENT CONDITIONS ARE SEQUENCE-DEPENDENT AND WILL BE DIFFERENT IN DIFFERENT CIRCUMSTANCES". THE PATENT SPECIFICATION DOES NOT DESCRIBE THE INVENTION IN SUFFICIENT DETAIL THAT ONE SKILLED IN THE ART COULD CLEARLY CONCLUDE THAT "THE INVENTOR INVENTED THE CLAIMED INVENTION", AND WAS IN POSSESSION OF THE FULL SCOPE OF THE CLAIMED INVENTION.

CLAIMS 1-23 ARE REJECTED UNDER 35 U.S.C. 112, FIRST PARAGRAPH, AS CONTAINING SUBJECT MATTER WHICH WAS NOT DESCRIBED IN THE SPECIFICATION IN SUCH A WAY AS TO REASONABLY CONVEY TO ONE SKILLED IN THE RELEVANT ART THAT THE INVENTOR(S), AT THE TIME THE APPLICATION WAS FILED, HAD POSSESSION OF THE CLAIMED INVENTION. (THIS IS A WRITTEN DESCRIPTION REJECTION)

THE INSTANT CLAIM 1 RECITES A METHOD OF SCREENING FOR CANDIDATE AGENTS CAPABLE OF MODULATING GERMLINE TRANSCRIPTION. THE METHOD STEPS COMPRISE:

- A) ADDING A LIBRARY OF CANDIDATE AGENTS TO A PLURALITY OF CELLS
- B) PREPARING MRNA FROM SAID PLURALITY OF CELLS TO FORM AN MRNA MIXTURE
- C) ADDING TO SAID MIXTURE AT LEAST A FIRST RNASE PROTECTION PROBE (RPP) TO FORM A FIRST HYBRIDIZATION COMPLEX BETWEEN SAID FIRST GERMLINE MRNA AND SAID FIRST RPP
- D) ADDING AN RNASE PROTECTION ENZYME (RPE) TO SAID MIXTURE, SUCH THAT MRNA THAT IS NOT PROTECTED IS DIGESTED
- E) QUANTIFYING THE AMOUNT OF SAID FIRST GERMLINE MRNA AS COMPARED TO A CELL IN THE ABSENCE OF A CANDIDATE AGENT
- F) IDENTIFYING AT LEAST ONE CANDIDATE AGENT THAT ALTERS THE AMOUNT OF SAID FIRST GERMLINE MRNA.

ART UNIT: 1639

THE SPECIFICATION DISCLOSURE DOES NOT SUFFICIENTLY TEACH (I.E., ADEQUATELY DESCRIBE) THE METHOD BECAUSE IT DOES NOT TEACH:

- A. QUANTIFICATION WITHOUT THE USE OF A LABELED PROBE
- B. IDENTIFICATION OF A CANDIDATE AGENT
- C. IDENTIFICATION OF A CANDIDATE AGENT IN COMBINATION WITH
QUANTIFICATION WITHOUT THE USE OF A LABELED PROBE.

THE SPECIFICATION DESCRIPTION IS DIRECTED TO THE USE OF RNASE PROBE PROTECTION ASSAYS TO DETECT AND QUANTIFY SPECIFIC GERMLINE MRNAs (P 4, LNS 6-7) BY ADDING **LABELED ANTISENSE RNASE PROTECTION PROBES** TO MRNA POPULATIONS (P 4, LNS 8-10). SAID METHOD COMPRISES:

- A) PROVIDING A PLURALITY OF CELLS (P 5, LNS 4-16)
- B) ADDING (PREFERABLY) A LIBRARY OF CANDIDATE AGENTS (P 5, LNS 4-5)
- C) (PREFERABLY) STIMULATING SAID CELLS TO PRODUCE GERMLINE RNA (P 16, LNS 26-27)
- D) INCUBATING THE CELLS FOR SOME PERIOD OF TIME (P 16, LNS 32-33)
- E) PREPARING TOTAL MRNA FROM THE CELLS (P 16, LN 33) TO PREPARE AN MRNA MIXTURE (P 17, LNS 10-11)
- F) ADDING TO SAID MIXTURE AT LEAST ONE **LABELED** (VIDE SUPRA), AND AS PREFERRED EMBODIMENT, P 24, LN 21 RNASE PROTECTION PROBE
- G) ALLOWING THE PROBE TO HYBRIDIZE TO ITS ANTISENSE TARGET (P 17, LNS 12-16)
- H) ADDING AT LEAST ONE RNASE PROTECTION ENZYME SUCH THAT UNPROTECTED (I.E, NON-DUPLEX) MRNA IS DEGRADED (P 24, LNS 17-25)

ART UNIT: 1639

- 1) DETECTION AND/OR QUANTIFICATION OF HYBRIDIZED [AND THEREFORE INDIRECTLY LABELED (VIDE SUPRA)] GERMLINE TRANSCRIPT (P 24, LN 26- P 25, LN 3).

THIS METHOD CLEARLY DOES NOT PROVIDE AN ADEQUATE REPRESENTATION REGARDING:

- A. QUANTIFICATION WITHOUT THE USE OF A LABELED PROBE
- B. IDENTIFICATION OF A CANDIDATE AGENT
- C. IDENTIFICATION OF A CANDIDATE AGENT IN COMBINATION WITH
QUANTIFICATION WITHOUT THE USE OF A LABELED PROBE.

THE SPECIFICATION EXAMPLE IS HYPOTHETICAL AND IS DRAWN TO A METHOD FOR THE SPECIFIC DETECTION OF SPLICED MESSAGES BY EMPLOYING A RIBONUCLEASE PROTECTION ASSAY.

THE METHOD STEPS COMPRISING:

- A) RADIOLABELING AN ANTISENSE RNA COPY OF A PROBE (P 26, LN 21)
- B) HYBRIDIZING THE PROBE TO EITHER TOTAL CELLULAR, OR POLYA+ RNA (P 26, LNS 25-27)
- C) RNASE TREATMENT OF THE PREPARATION (P 26, LNS 28-29)
- D) ELECTROPHORESIS OF THE PREPARATION (P26, LNS 31-32)
- E) DETECTION OF THE PRODUCT BY VISUALIZATION OF THE LABEL (P 26, LNS 33-34)
- F) QUANTIFICATION OF THE PRODUCT BY COMPARING FRAGMENT BAND SIGNAL
INTENSITIES (P 27, LNS 7-10).

THE SPECIFICATION DOES NOT TEACH (I.E., ADEQUATELY DESCRIBE) THE METHOD OF CLAIM 1. MERELY UNDERTAKING AN RNASE PROTECTION ASSAY, WHETHER USING A SINGLE OR MULTIPLE PROBES, DOES NOT PROVIDE FOR THE IDENTIFICATION OF A CANDIDATE AGENT WHEN THAT AGENT IS A MEMBER OF A LIBRARY OF CANDIDATE AGENTS. HOW IS THE LIBRARY DECONVOLUTED FROM

ART UNIT: 1639

THE PREFERRED EMBODIMENTS OF 10⁶-10⁹ CANDIDATE AGENTS (SEE SPECIFICATION, P 9, LINES 7-9) TO AT LEAST ONE (OR SEVERAL, OR SEVERAL DOZEN, OR SEVERAL HUNDRED) CANDIDATE AGENT(S) THAT MODULATE GERMLINE TRANSCRIPTION? WHAT ANALYTICAL METHODS ARE USED TO DETERMINE THE STRUCTURE OF "HITS" AMONG SUCH A POPULATION OF CANDIDATE AGENTS? HOW DOES ONE QUANTITATE A HYBRIDIZED OUTPUT GERMLINE MRNA WITHOUT USING A LABELED PROBE? HOW DOES ONE IDENTIFY A CANDIDATE AGENT WITHOUT A QUANTIFYABLE MRNA OUTPUT?

VAS-CATH INC. V. MAHURKAR, 19 USPQ2D 1111, MAKES CLEAR THAT "APPLICANT MUST CONVEY WITH REASONABLE CLARITY TO THOSE SKILLED IN THE ART THAT, AS OF THE FILING DATE SOUGHT, HE OR SHE WAS IN POSSESSION *OF THE INVENTION*. THE INVENTION IS, FOR PURPOSES OF THE 'WRITTEN DESCRIPTION' INQUIRY, *WHATEVER IS NOW CLAIMED*." (SEE PAGE 1117.) THE SPECIFICATION DOES NOT "CLEARLY ALLOW PERSONS OF ORDINARY SKILL IN THE ART TO RECOGNIZE THAT [HE OR SHE] INVENTED WHAT IS CLAIMED." (SEE VAS-CATH AT PAGE 1116.).

WITH THE EXCEPTION OF THE USE OF RNASE PROBE PROTECTION ASSAYS TO DETECT AND QUANTIFY SPECIFIC GERMLINE MRNAs DISCLOSED BY THE SPECIFICATION, THE SKILLED ARTISAN CANNOT ENVISION THE METHOD OF CLAIM 1. ADEQUATE WRITTEN DESCRIPTION REQUIRES MORE THAN A MERE STATEMENT THAT IT IS PART OF THE INVENTION AND REFERENCE TO A POTENTIAL METHOD FOR ISOLATING IT. SEE FIER'S V. REVEL, 25 USPQ2D 1601, 1606 (CAFC 1993) AND AMGEN INC. V. CHUGAI PHARMACEUTICAL CO. LTD., 18 USPQ2D 1016. IN FIDDES V. BAIRD, 30 USPQ2D 1481, 1483, CLAIMS DIRECTED TO MAMMALIAN FGF'S WERE FOUND UNPATENTABLE DUE TO LACK OF WRITTEN DESCRIPTION FOR THE BROAD CLASS. THE SPECIFICATION PROVIDED ONLY THE BOVINE SEQUENCE.

FINALLY, UNIVERSITY OF CALIFORNIA V. ELI LILLY AND CO., 43 USPQ2D 1398, 1404, 1405 HELD THAT:

...TO FULFILL THE WRITTEN DESCRIPTION REQUIREMENT, A PATENT SPECIFICATION MUST DESCRIBE AN INVENTION AND DO SO IN SUFFICIENT DETAIL THAT ONE SKILLED IN THE

ART UNIT: 1639

ART CAN CLEARLY CONCLUDE THAT "THE INVENTOR INVENTED THE CLAIMED INVENTION." *LOCKWOOD V. AMERICAN AIRLINES, INC.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (1997); IN *RE GOSTELI*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989) (" [T]HE DESCRIPTION MUST CLEARLY ALLOW PERSONS OF ORDINARY SKILL IN THE ART TO RECOGNIZE THAT [THE INVENTOR] INVENTED WHAT IS CLAIMED."). THUS, AN APPLICANT COMPLIES WITH THE WRITTEN DESCRIPTION REQUIREMENT "BY DESCRIBING THE INVENTION, WITH ALL ITS CLAIMED LIMITATIONS, NOT THAT WHICH MAKES IT OBVIOUS," AND BY USING "SUCH DESCRIPTIVE MEANS AS WORDS, STRUCTURES, FIGURES, DIAGRAMS, FORMULAS, ETC., THAT SET FORTH THE CLAIMED INVENTION." *LOCKWOOD*, 107 F.3d AT 1572, 41 USPQ2d AT 1966.

IN THE PRESENT INSTANCE, THE CLAIMED METHOD COMPRISES:

- A) ADDING A LIBRARY OF CANDIDATE AGENTS TO A PLURALITY OF CELLS
- B) PREPARING MRNA FROM SAID PLURALITY OF CELLS TO FORM AN MRNA MIXTURE
- C) ADDING TO SAID MIXTURE AT LEAST A FIRST RNASE PROTECTION PROBE (RPP) TO FORM A FIRST HYBRIDIZATION COMPLEX BETWEEN SAID FIRST GERMLINE MRNA AND SAID FIRST RPP
- D) ADDING AN RNASE PROTECTION ENZYME (RPE) TO SAID MIXTURE, SUCH THAT MRNA THAT IS NOT PROTECTED IS DIGESTED
- E) QUANTIFYING THE AMOUNT OF SAID FIRST GERMLINE MRNA AS COMPARED TO A CELL IN THE ABSENCE OF A CANDIDATE AGENT
- F) IDENTIFYING AT LEAST ONE CANDIDATE AGENT THAT ALTERS THE AMOUNT OF SAID FIRST GERMLINE MRNA.

THE SPECIFICATION DOES NOT TEACH (I.E., ADEQUATELY DESCRIBE) THE METHODS OF:

- D. QUANTIFICATION WITHOUT THE USE OF A LABELED PROBE
- E. IDENTIFICATION OF A CANDIDATE AGENT
- F. IDENTIFICATION OF A CANDIDATE AGENT IN COMBINATION WITH QUANTIFICATION WITHOUT THE USE OF A LABELED PROBE.

ART UNIT: 1639

THEREFORE, ONLY THE METHOD OF THE DISCLOSURE, BUT NOT THE FULL BREADTH OF THE CLAIMED METHOD MEETS THE WRITTEN DESCRIPTION PROVISION OF 35 U.S.C. 112, FIRST PARAGRAPH.

CLAIM REJECTIONS - 35 USC § 112, 1ST PARAGRAPH

(NEW MATTER)

CLAIMS 1-23 ARE REJECTED UNDER 35 U.S.C. 112, FIRST PARAGRAPH, AS CONTAINING SUBJECT MATTER WHICH WAS NOT DESCRIBED IN THE SPECIFICATION IN SUCH A WAY AS TO REASONABLY CONVEY TO ONE SKILLED IN THE RELEVANT ART THAT THE INVENTOR(S), AT THE TIME THE APPLICATION WAS FILED, HAD POSSESSION OF THE CLAIMED INVENTION. (THIS IS A NEW MATTER REJECTION)

APPLICANTS ASSERT IN PAPER No. 14 THAT "[S]UPPORT FOR THE AMENDMENT TO CLAIM 1 (E.G., "...MRNA FROM AN IMMUNOGLOBULIN HEAVY CHAIN GENE LOCUS ..." MAY BE FOUND THROUGHOUT THE SPECIFICATION, INCLUDING THE ORIGINALLY FILED CLAIMS". THE EXAMINER IS UNABLE TO FIND DIRECT SUPPORT IN EITHER THE BODY OF THE SPECIFICATION, OR THE ORIGINALLY FILED CLAIMS. IF THIS IS AN ERROR ON THE PART OF THE EXAMINER, IT IS REQUESTED THAT APPLICANT POINT TO THE REQUIRED SUPPORT FOR THE AMENDMENT TO CLAIM 1 BY CITING THE PAGE AND LINE NUMBER WHERE SAID SUPPORT MAY BE FOUND.

CLAIM REJECTIONS - 35 USC § 112, 1ST PARAGRAPH

(ENABLEMENT)

CLAIMS 1-23 ARE REJECTED UNDER 35 U.S.C. 112, FIRST PARAGRAPH, AS FAILING TO COMPLY WITH THE ENABLEMENT REQUIREMENT. THE CLAIM(S) CONTAINS SUBJECT MATTER WHICH WAS NOT DESCRIBED IN THE SPECIFICATION IN SUCH A WAY AS TO ENABLE ONE SKILLED IN THE ART

ART UNIT: 1639

TO WHICH IT PERTAINS, OR WITH WHICH IT IS MOST NEARLY CONNECTED, TO MAKE AND/OR USE THE INVENTION. (THIS IS AN ENABLEMENT REJECTION)

IN THE INSTANT CASE, THE LIMITATIONS OF (A) "A LIBRARY OF CANDIDATE AGENTS", (B) "A PLURALITY OF CELLS", AND (C) "IDENTIFYING AT LEAST ONE CANDIDATE AGENT THAT ALTERS THE AMOUNT OF SAID FIRST GERMLINE MRNA" ARE NOT SUFFICIENTLY DESCRIBED IN THE SPECIFICATION SO AS TO ENABLE ONE SKILLED IN THE ART TO WHICH IT PERTAINS, OR WITH WHICH IT IS MOST NEARLY CONNECTED, TO MAKE AND USE THE INVENTION COMMENSURATE IN SCOPE WITH THESE CLAIMS.

APPLICANTS CLAIMED INVENTION IS ESSENTIALLY DRAWN TO A TRIAL AND ERROR METHOD FOR DISCOVERING A "CANDIDATE AGENT" THAT MODULATES GERMLINE TRANSCRIPTION. THE SPECIFICATION, HOWEVER, DOES NOT PROVIDE ANY GUIDANCE IN THE WAY OF SELECTING A PARTICULAR "CANDIDATE AGENT" FOR SCREENING (I.E., APPLICANTS PROVIDE NO EXAMPLES OF CANDIDATE COMPOUNDS, SEE SPECIFICATION AND ABOVE). FURTHERMORE, THE SPECIFICATION DOES NOT PROVIDE ANY MEANS FOR NARROWING THE INFINITE NUMBER OF POSSIBLE CANDIDATE COMPOUNDS TO A MORE MANAGEABLE LIST OF CANDIDATES. CONSEQUENTLY, ALTHOUGH THE PRESENT APPLICATION DESCRIBES AN ASSAY FOR DETERMINING WHETHER A GIVEN LIBRARY OF AGENTS POSSESSES CERTAIN DESIRED FUNCTIONAL CHARACTERISTICS, AND IDENTIFIES SOME BROAD CATEGORIES OF AGENTS THAT *MIGHT* WORK, THESE DESCRIPTIONS, WITHOUT MORE PRECISE GUIDELINES, AMOUNT TO LITTLE MORE THAN "A STARTING POINT, A DIRECTION FOR FURTHER RESEARCH." *GENENTECH*, 108 F.3D AT 1366. *SEE ALSO CALGENE*, 188 F.3D AT 1374 ("THE TEACHINGS SET FORTH IN THE SPECIFICATIONS PROVIDE NO MORE THAN A 'PLAN' OR 'INVITATION' FOR THOSE OF SKILL IN THE ART TO EXPERIMENT PRACTICING [THE CLAIMED INVENTION]; THEY DO NOT PROVIDE SUFFICIENT GUIDANCE OR SPECIFICITY AS TO HOW TO EXECUTE THAT PLAN"). THE COURTS HAVE REPEATEDLY STATED THAT "[P]ATENT PROTECTION IS GRANTED IN

ART UNIT: 1639

RETURN FOR AN ENABLING DISCLOSURE OF AN INVENTION, NOT FOR VAGUE INTIMATIONS OF GENERAL IDEAS THAT MAY OR MAY NOT BE WORKABLE. TOSSING OUT THE MERE GERM OF AN IDEA DOES NOT CONSTITUTE ENABLING DISCLOSURE." *GENENTECH*, 108 F.3d AT 1366 (QUOTING *BRENNER V. MANSON*, 383 U.S. 519, 536 (1966) (STATING, IN CONTEXT OF THE UTILITY REQUIREMENT, THAT "A PATENT IS NOT A HUNTING LICENSE. IT IS NOT A REWARD FOR THE SEARCH, BUT COMPENSATION FOR ITS SUCCESSFUL CONCLUSION"))).

THERE ARE MANY FACTORS TO BE CONSIDERED WHEN DETERMINING WHETHER THERE IS SUFFICIENT EVIDENCE TO SUPPORT A DETERMINATION THAT A DISCLOSURE DOES NOT SATISFY THE ENABLEMENT REQUIREMENT AND WHETHER ANY NECESSARY EXPERIMENTATION IS "UNDUE". SOME OF THESE FACTORS MAY INCLUDE, BUT ARE NOT LIMITED TO:

- 1) THE BREADTH OF THE CLAIMS;
- 2) THE NATURE OF THE INVENTION;
- 3) THE STATE OF THE PRIOR ART;
- 4) THE LEVEL OF ONE OF ORDINARY SKILL;
- 5) THE LEVEL OF PREDICTABILITY IN THE ART;
- 6) THE AMOUNT OF DIRECTION PROVIDED BY THE INVENTOR;
- 7) THE EXISTENCE OF WORKING EXAMPLES; AND
- 8) THE QUANTITY OF EXPERIMENTATION NEEDED TO MAKE OR USE THE INVENTION BASED ON THE CONTENT OF THE DISCLOSURE.

SEE *IN RE WANDS*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(1-2) THE BREADTH OF THE CLAIMS AND THE NATURE OF THE INVENTION:

THE CLAIMS ARE DRAWN TO SEVERAL BROAD GENERAL. APPLICANT'S CLAIMS PLACE NO STRUCTURAL LIMITATIONS ON THE "CANDIDATE AGENTS" THAT CAN BE USED IN THE CLAIMED

ART UNIT: 1639

METHOD. THE SPECIFICATION AND CLAIMS DO NOT PLACE ANY LIMIT ON THE NUMBER OF ATOMS, THE TYPES OF ATOMS, OR THE MANNER IN WHICH SAID ATOMS MIGHT BE CONNECTED TO FORM THE CANDIDATE AGENT. THIS READS ON AN INFINITE NUMBER OF STRUCTURAL POSSIBILITIES.

FURTHERMORE, APPLICANT'S CLAIMS PLACE NO LIMITATIONS ON THE SIZE OF THE MEMBERS OF THE LIBRARY OF RANDOM PROTEINS OR NUCLEIC ACIDS, WHICH AGAIN READS ON AN INFINITE NUMBER OF POSSIBILITIES.

APPLICANT'S CLAIMS PLACE NO LIMITATIONS ON THE "PLURALITY OF CELLS" THAT CAN BE USED IN THE CLAIMED METHOD. THE SPECIFICATION AND CLAIMS DO NOT PLACE ANY LIMIT ON THE NUMBER OR TYPES OF CELLS THAT CAN BE USED IN THE CLAIMED METHOD. THIS READS ON AN INFINITE NUMBER OF STRUCTURAL, FUNCTIONAL, AND NON-FUNCTIONAL POSSIBILITIES.

CONSEQUENTLY, THE NATURE OF THE INVENTION CANNOT BE FULLY DETERMINED BECAUSE THE INVENTION HAS NOT BEEN DEFINED WITH PARTICULARITY.

(3 AND 5) THE STATE OF THE PRIOR ART AND THE LEVEL OF PREDICTABILITY IN THE ART:

THE PRIOR ART EXPLICITLY STATES THAT "...BOTH EXPRESSION OF GERMLINE TRANSCRIPTS AND SUBSEQUENT SWITCH RECOMBINATION ARE REGULATED BY CYTOKINES IN CONCERT WITH B-CELL ACTIVATORS. FOR EXAMPLE, TGF- β INDUCES TRANSCRIPTS FROM THE UNREARRANGED C α GENE, AND SUBSEQUENTLY DIRECTS SWITCHING TO IGA IN LPS-ACTIVATED MOUSE B CELLS, WHEREAS IL-4 INDUCES TRANSCRIPTS FROM THE UNREARRANGED C γ 1 AND C ϵ GENES AND DIRECTS SWITCHING TO IGG1 AND IGE IN LPS-ACTIVATED B CELLS"(OVEREXPRESSION OF BSAP/PAX-5 INHIBITS SWITCHING TO IGA AND ENHANCES SWITCHING TO IGE IN THE J.29 MU B CELL LINE, QIU G, STAVNEZER J., J. IMMUNOL., 1998 SEP 15;161(6):2906-18). THUS, ACTIVATION OF GERMLINE TRANSCRIPTION IS INDUCED BY RELATIVELY FEW, SPECIFIC EFFECTORS. WHILE RIBONUCLEASE PROTECTION ASSAYS HAVE BEEN KNOWN FOR SOME TIME, THERE ARE NO

ART UNIT: 1639

EXAMPLES OF THEIR USE AS A COMBINATORIAL SCREENING TOOL. THEREFORE, THE EXAMINER CONTENDS THAT THE LEVEL OF PREDICTABILITY IN THE ART IS LOW OR ABSENT.

(4) THE LEVEL OF ONE OF ORDINARY SKILL:

THE LEVEL OF SKILL REQUIRED WOULD BE HIGH, MOST LIKELY AT THE PH.D. LEVEL.

(6-7) THE AMOUNT OF DIRECTION PROVIDED BY THE INVENTOR AND THE EXISTENCE OF WORKING EXAMPLES:

APPLICANTS HAVE NOT PROVIDED A SINGLE WORKING EXAMPLE DEMONSTRATING THE USE OF AN RNASE PROTECTION ASSAY TO IDENTIFY AN UNKNOWN (OR KNOWN, FOR THAT MATTER!) EFFECTOR OF GERMLINE TRANSCRIPTION. IN FACT, THE SINGLE "EXAMPLE" DESCRIBES ONLY THE CONSTRUCTION OF DNA TEMPLATES FROM WHICH PROBES COULD BE TRANSCRIBED. THE GENERIC DESCRIPTION OF AN RNASE PROTECTION ASSAY COULD HAVE BEEN TAKEN FROM "CURRENT PROTOCOLS IN MOLECULAR BIOLOGY". THERE ARE NO EXAMPLES OF THE USE OF THE CLAIMED INVENTION WITH A SINGLE MOLECULE, MUCH LESS A LIBRARY OF MOLECULES. THERE ARE, IN FACT, NO EXAMPLES USING CELLS OF ANY KIND.

(8) THE QUANTITY OF EXPERIMENTATION NEEDED TO MAKE OR USE THE INVENTION BASE ON THE CONTENT OF THE DISCLOSURE:

THE INSTANT SPECIFICATION, FOR ALL THE REASONS ASSERTED ABOVE, DOES NOT PROVIDE TO ONE SKILLED IN THE ART A REASONABLE AMOUNT OF GUIDANCE TO MAKE AND USE THE CLAIMED INVENTION. AS A RESULT OF THE BROAD AND UNPREDICTABLE NATURE OF THE INVENTION AND THE LACK OF SPECIFIC GUIDANCE FROM THE SPECIFICATION, THE EXAMINER CONTENDS THAT THE QUANTITY OF EXPERIMENTATION NEEDED TO MAKE AND OR USE THE INVENTION WOULD BE GREAT. NOTE THAT THERE MUST BE SUFFICIENT DISCLOSURE, EITHER THROUGH ILLUSTRATIVE EXAMPLES OR TERMINOLOGY, TO TEACH THOSE OF ORDINARY SKILL HOW TO MAKE AND USE THE INVENTION AS BROADLY AS IT IS CLAIMED. *IN RE VAECK*, 947 F.2D 488, 496 & n.23, 20 USPQ2D

ART UNIT: 1639

1438, 1445 * N.23 (Fed. Cir. 1999). IN THIS CASE, APPLICANTS HAVE NOT PROVIDED ANY WORKING EXAMPLES THAT WOULD TEACH (I.E., ADEQUATELY DESCRIBE) THIS ENORMOUS GENUS THAT FALLS WITHIN A HIGHLY UNPREDICTABLE ART AREA. THEREFORE, IT IS DEEMED THAT FURTHER RESEARCH OF AN UNPREDICTABLE NATURE WOULD BE NECESSARY TO MAKE OR USE THE INVENTION AS CLAIMED. THUS, DUE TO THE INADEQUACIES OF THE INSTANT DISCLOSURE ONE OF ORDINARY SKILL WOULD NOT HAVE A REASONABLE EXPECTATION OF SUCCESS AND THE PRACTICE OF THE FULL SCOPE OF THE INVENTION WOULD REQUIRE UNDUE EXPERIMENTATION.

CONCLUSION

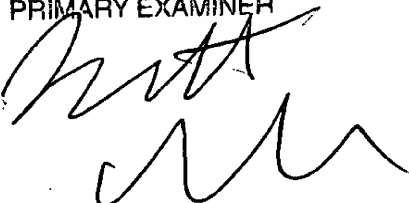
NO CLAIMS ARE ALLOWED.

ANY INQUIRY CONCERNING THIS COMMUNICATION OR EARLIER COMMUNICATIONS FROM THE EXAMINER SHOULD BE DIRECTED TO DEVON R BYRD WHOSE TELEPHONE NUMBER IS 703-305-0159. THE EXAMINER CAN NORMALLY BE REACHED ON MON-FRI 8A-5P.

IF ATTEMPTS TO REACH THE EXAMINER BY TELEPHONE ARE UNSUCCESSFUL, THE EXAMINER'S SUPERVISOR, ANDREW WANG CAN BE REACHED ON 703-306-2317. THE FAX PHONE NUMBER FOR THE ORGANIZATION WHERE THIS APPLICATION OR PROCEEDING IS ASSIGNED IS (703) 872-9306.

ANY INQUIRY OF A GENERAL NATURE OR RELATING TO THE STATUS OF THIS APPLICATION OR PROCEEDING SHOULD BE DIRECTED TO THE RECEPTIONIST WHOSE TELEPHONE NUMBER IS 703-308-1235.

BENNETT CELSA
PRIMARY EXAMINER



DB
SEPTEMBER 22, 2003